

## CLAIMS

What is claimed is:

1 1. A slider scale package assembly for electrically coupling a slider/magnetic  
2 recording (MR) head to a head interconnect circuit in a disc drive, comprising:  
3 the slider/MR head; and  
4 means for attaching to a back of the slider/MR head which turns the slider/MR  
5 head into the slider scale package with at least one interconnect pad disposed at the back  
6 of the slider/MR head.

1 2. A slider scale package assembly for electrically coupling a slider/magnetic  
2 recording (MR) head to a head interconnect circuit in a disc drive, comprising:  
3 the slider/MR head; and  
4 a flex circuit attached to a back of the slider/MR head which turns the slider/MR  
5 head into the slider scale package with at least one interconnect pad disposed at the back  
6 of the slider/MR head.

1 3. The slider scale package assembly of claim 2, wherein the flex circuit further  
2 includes a conductive material, the at least one interconnect pad is electrically connected  
3 to the conductive material of the flex circuit, the slider/MR head includes at least one  
4 bond pad, the conductive material of the flex circuit is electrically bonded to the at least  
5 one bond pad of the slider/MR head.

1 4. The slider scale package assembly of claim 3, wherein the electrical bonding  
2 between the conductive material of the flex circuit and the at least one bond pad of the  
3 slider/MR head is disposed at a front end of the slider/MR head.

1 5. The slider scale package assembly of claim 3, wherein the electrical bonding  
2 between the conductive material of the flex circuit and the at least one bond pad of the  
3 slider/MR head is disposed at the back of the slider/MR head.

1 6. The slider scale package assembly of claim 3, wherein the electrical bonding  
2 between the conductive material of the flex circuit and the at least one bond pad of the  
3 slider/MR head is disposed at the back of the slider/MR head via a bonding ball.

1 7. The slider scale package assembly of claim 3, wherein the electrical bonding  
2 between the conductive material of the flex circuit and the at least one bond pad of the  
3 slider/MR head is disposed at a front end of the slider/MR head via a bonding ball.

1 8. The slider scale package assembly of claim 3, wherein the flex circuit includes  
2 first, second, third, and fourth interconnect pads, and the slider/MR head includes first,  
3 second, third, and fourth bond pads.

1 9. The slider scale package assembly of claim 8, wherein the first and second bond  
2 pads are electrically coupled to a first pair of positive and negative polarities of the  
3 slider/MR head for reading data, respectively, the third and fourth bond pads are  
4 electrically coupled to a second pair of positive and negative polarities of the slider/MR  
5 head for writing data, respectively.

1 10. The slider scale package assembly of claim 9, wherein the first, second, third, and  
2 fourth interconnect pads are arranged such that the polarities of the bond pads of the head

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3 interconnect circuit match with polarities from the head interconnect circuit.

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1 11. The slider scale package assembly of claim 10, wherein the first and second  
2 interconnect pads are electrically connected to the first and second bond pads of the  
3 slider/MR head, respectively, and the third and fourth interconnect pads are electrically  
4 connected to the third and fourth bond pads of the slider/MR head, respectively.

1 12. The slider scale package assembly of claim 10, wherein the first and second  
2 interconnect pads are electrically connected to the second and first bond pads of the  
3 slider/MR head, respectively, and the third and fourth interconnect pads are electrically  
4 connected to the fourth and third bond pads of the slider/MR head, respectively.

1 13. The slider scale package assembly of claim 3, further comprising a plurality of  
2 flex circuits being disposed in a sheet format.

1 14. The slider scale package assembly of claim 13, wherein the plurality of flex  
2 circuits in the sheet format are dividable into a plurality of individual flex circuits.

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1 15. A head gimbal assembly (HGA) for supporting a slider/magnetic recording (MR)  
2 head in a disc drive, comprising:

3 a suspension supporting the slider/MR head;

4 a head interconnect circuit being attached to and disposed along the suspension,  
5 the head interconnect circuit including a conductive material; and

6 a slider scale package for electrically coupling the slider/MR head to the head  
7 interconnect circuit, wherein the slider scale package comprises a flex circuit attached to

8 a back of the slider/MR head which turns the slider/MR head into the slider scale package  
10 with at least one interconnect pad disposed at the back of the slider/MR head, the at least  
11 one interconnect pad being electrically bonded to the conductive material of the head  
interconnect circuit.

1 16. The HGA of claim 15, wherein the flex circuit further includes a conductive  
2 material, and the slider/MR head includes at least one bond pad, the conductive material  
3 of the flex circuit is electrically connected to the at least one interconnect pad at a first  
4 end and to the at least one bond pad of the slider/MR head at a second end.

1 17. The HGA of claim 16, wherein the flex circuit includes first, second, third, and  
2 fourth interconnect pads, and the slider/MR head includes first, second, third, and fourth  
3 interconnect pads.

1 18. The HGA of claim 17, wherein the first, second, third, and fourth interconnect  
2 pads are arranged such that the polarities of the bond pads of the head interconnect circuit  
3 match with polarities from the head interconnect circuit.

1 19. The HGA of claim 15, further comprising a plurality of flex circuits being  
2 disposed in a sheet format, the plurality of flex circuits in the sheet format being dividable  
3 into a plurality of individual flex circuits

1 20. The HGA of claim 16, wherein bonding of the conductive material of the flex  
2 circuit to the slider/MR head and bonding of the at least one interconnect pad of the flex  
3 circuit to the conductive material of the head interconnect circuit are done in a separate

4 automated process.

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